

## CLAIMS

- 1/ A method for assigning resources in a shared channel of a communication network comprising a master station and a plurality of slave stations
- 5 communicating with said master station over said shared channel, said master station sending transmit authorizations to said slave stations authorizing each of them to transmit at least a traffic packet on said shared channel, at least one of said slave stations having inactivity periods during which said slave station has no traffic packet to transmit, a maximum time interval between two
- 10 transmit authorizations, called activity time interval, being ensured during non inactivity periods for each slave station, said method being characterized in comprising the steps of:
- transmitting to said master station a silence indication upon reception of a transmit authorization at said slave station during an inactivity period; and
  - 15 - increasing said maximum time interval between two transmit authorizations for said slave station upon reception of said silence indication at said master station.
- 2/ A method according to claim 1, characterized in further comprising the
- 20 step of restoring at said master station said activity time interval between two

transmit authorizations for said slave station upon reception of a traffic packet from said slave station after an inactivity period.

3/ A method according to claim 1, characterized in that said silence indication  
5 is a predefined silence packet transmitted by said slave station on said shared channel to said master station.

4/ A method according to claim 1, characterized in that, successive time  
10 intervals between transmit authorizations sent to a slave station during an inactivity period of said slave station are determined by a predefined function.

5/ A method according to claim 1, characterized in that said master station is  
a base station of a radio communication network and said slave stations are  
mobile terminals of said radio communication network sharing an uplink  
15 communication channel, said base station broadcasting transmit  
authorizations on a downlink channel to said mobile terminals, said activity  
time interval between two transmit authorizations being determined at said  
base station for each mobile terminal depending on the traffic characteristics  
supported by said mobile terminal.

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6/ A method according to claim 1, characterized in that said uplink  
communication channel is a time-shared communication channel, said base  
station broadcasting transmit authorizations on a downlink channel indicating  
which time slot of said uplink communication channel has to be used by the  
25 terminal authorized to transmit.

7/ A mobile terminal to be part of a radio communication network, said  
mobile terminal receiving transmit authorizations when authorized to transmit

a packet, said mobile terminal having inactivity periods during which it has no packet to transmit, said mobile terminal comprising

- an inactivity detector to detect an inactivity period; and
- a predefined silence packet generator to transmit a predefined silence packet upon reception of a transmit authorization during one of said inactivity periods.

8/ A master station for assigning resources on a shared channel of a communication network to a plurality of slave stations, said master station comprising

- a resource assignment module to assign transmit authorizations to said slave stations to authorize each of them to transmit packets on said shared channel,
- a silence packet detector to detect a predefined silence packet received on said shared channel; and
- a time interval adjuster to modify the maximum time interval between two transmit authorizations sent to a slave station upon reception of a silence packet from said slave station.

9/ A master station according to claim 8, characterized in that said master station is a base station part of a radio communication network, said base station comprising a resources assignment module to assign resources on a shared channel to a plurality of mobile terminals by sending transmit authorizations to authorize said mobile terminals to transmit packets on said shared channel.